

TABLE 1

<u>Reagent for a Ketone Body Test Pad</u>	
Components	Quantity
Water	100 ml
Tris(hydroxymethyl)Aminomethane (MW 121, Sigma, St. Louis, MO, USA) (Adjust pH to 8.5 by adding 6 M HCl)	1.2 gm
Sodium Chloride (MW 56.44; Sigma, St. Louis, MO, USA)	560 mg
Magnesium Chloride (MW 203, Sigma, St. Louis, MO, USA)	2.5 gm
PSSA, polystyrenesulfonic acid, sodium salt (MW 70,000, Polysciences, Inc., Warrington, PA, USA)	3 gm
Crotein (Croda Inc. Parsippany, NJ, USA)	3 gm
Oxamic acid, sodium salt (MW 111.03, Aldrich Chemicals/Milwaukee, WI, USA)	250 mg
Tetronic 1307 (BASF Corporation, Mount Olive, New Jersey, USA)	2 gm
Sucrose (MW 342.30, Aldrich Chemicals, Milwaukee, WI, USA)	5 gm
NAD (MW 663.4, N-7004, Sigma, St. Louis, MO, USA)	450 mg
D-3-hydroxybutyrate dehydrogenase (Origin: Pseudomonas sp., HBD-301, 125 U/mg, Toyobo, Japan)	50,000 U
Diaphorase (Origin: B. Stearothermophilus, New, 1033 U/mg, Toyobo, Japan)	340890 U
WST-5 (MW 1331.37, Dojindo, Japan)	1.8 gm

TABLE 2

<u>Nitrite Reagent</u>	
Components	Quantity
10 mM Phosphate Buffer Saline, pH 7.4, (P-3813, Sigma, St. Louis, MO, USA)	70 ml
Ethanol	30 ml
Sodium Nitrite (MW 69, Aldrich Chemicals, Milwaukee, WI, USA)	5 gm
Polyvinylpyrrolidone (MW 40,000, Sigma, St. Louis, MO, USA)	200 mg
Oxamic acid, sodium salt (MW 111.03, Aldrich Chemicals, Milwaukee, WI, USA)	500 mg

TABLE 3

<u>Reagent for a Glucose Test Pad</u>	
Components	Quantity
Water	100 ml
Tris(hydroxymethyl)Aminomethane (MW 121, Sigma, St. Louis, MO, USA)	1.2 gm
Adjust pH to 7.4 by adding 6 N HCl	
Sodium Chloride (MW 56.44; Sigma, St. Louis, MO, USA)	560 mg
Magnesium Chloride (MW 203, Sigma, St. Louis, MO, USA)	2.5 gm
PSSA, polystyrenesulfonic acid, sodium salt (MW 70,000, Polysciences, Inc., Warrington, PA, USA)	3 gm
Crotein (Croda Inc. Parsippany, NJ, USA)	3 gm
Oxamic acid, sodium salt (MW 111.03, Aldrich Chemicals/Milwaukee, WI, USA)	250 mg
Tetronic 1307 (BASF Corporation, Mount Olive, New Jersey, USA)	2 gm
Sucrose (MW 342.30, Aldrich Chemicals, Milwaukee, WI, USA)	5 gm
PQQ (MW 330, 64682, Fluka)	100 mg
Glucose Dehydrogenase (291 U/mg, Toyobo, Japan)	29100 U
Phenazine Methosulfate (MW 306.34)	4 mg
WST-5 (MW 1331.37, Dojindo, Japan)	3.2 gm

What is claimed is:

1. A reagent for measuring a concentration of an analyte in a hemoglobin-containing biological fluid, comprising

- a) a dehydrogenase enzyme that has specificity for the analyte,
- b) pyrrolo-quinoline quinone(PQQ), or a PQQ derivative
- c) a tetrazolium dye precursor,
- d) a diaphorase enzyme or an analog thereof, and
- e) a nitrite salt.

2. The reagent of claim 1 in which the analyte is glucose and the enzyme is glucose dehydrogenase.

3. A dry reagent strip for determining the presence and amount of an analyte in a hemoglobin-containing biological fluid comprising a support layer on which is a test pad having a coating of the reagent of claim 1.

4. The strip of claim 3 further comprising a bibulous top layer overlaying the test pad.

5. A dry reagent strip for determining the presence and amount of an analyte in a hemoglobin-containing biological fluid comprising a support layer on which is a test pad and a top layer overlaying the test pad in which a first part of the reagent of claim 1 is on the test pad and a second part of the reagent is on the support and/or top layer.

6. The strip of claim 5 in which the top layer is bibulous.

7. The strip of claim 5 further comprising a spacer and channel between the top layer and test pad to provide a capillary path between the top layer and pad.

8. The strip of claim 5 in which the analyte is beta-hydroxybutyrate and the enzyme is beta-hydroxybutyrate dehydrogenase.

9. The strip of claim 5 in which the analyte is glucose and the enzyme is glucose dehydrogenase.

10. The strip of claim 5 in which the analyte is glucose-6-phosphate and the enzyme is glucose-6-phosphate dehydrogenase.

11. The strip of claim 5 in which the analyte is alcohol and the enzyme is alcohol dehydrogenase.

12. The strip of claim 5 in which the analyte is L-lactate and the enzyme is L-lactate dehydrogenase.

13. The strip of claim 5 in which the tetrazolium dye precursor is 2,2'-dibenzothiazolyl-5,5'-bis[4-di(2-sulfoethyl) carbamoylphenyl]-3,3'-(3,3'-dimethoxy- 4,4'-biphenylene) ditetrazolium, disodium salt (WST-5).

14. A dry reagent test strip for determining the presence and amount of an analyte in a hemoglobin-containing biological fluid, comprising

- a) a support layer,
- b) on the support layer, a test pad having a coating that comprises
 - i) a dehydrogenase enzyme that has specificity for the analyte,
 - ii) pyrrolo-quinoline quinone (PQQ), or a PQQ derivative
 - iii) a tetrazolium dye precursor, and
 - iv) a diaphorase enzyme or an analog thereof, and
- c) on the test pad, a bibulous top layer that is coated with a nitrite salt.